

AMENDMENTS TO THE SPECIFICATION

Please insert the following heading before the paragraph beginning on page 1, line 3:

Background Of The Invention

(1) Field of the Invention

Please insert the following heading before the paragraph beginning on page 1, line 9:

(2) Description of the Art

Please insert the following heading before the paragraph beginning on page 6, line 9:

Summary Of The Invention

Please insert the following heading before the paragraph beginning on page 13, line 11:

Description Of The Figures

Please insert the following heading before the paragraph beginning on page 14, line 8:

Description Of A Preferred Embodiment

Please amend the paragraph which begins on page 16, line 1 as follows:

The objective of the first stage of the pre-processing is that elements x_i ($i=1, \dots, m$) of the n -dimensional ($m \leq n$) spectral vector x should be proportional to the square roots $\sqrt{P_i}$ of integrated power P_i within different frequency bands, rather than the conventional logarithms of integrated power within different frequency bands. Further, elements x_i ($i=1, \dots, m$) should be scaled such that their squares should sum to a

constant A that is independent of the total power integrated across all frequency bands within the frame corresponding to that spectral vector. Thus, if the frame is sampled into m frequency bands, m of the elements x_i of the n-dimensional ($m \leq n$) spectral vector x should satisfy

$$x_i = A \sqrt{P_i} / \sum_{j=1}^m P_j \quad (i = 1, \dots, m) \quad \text{----- (Equation 1)}$$

$$x_i = \sqrt{\frac{AP_i}{\sum_{j=1}^m P_j}} \quad (i = 1, \dots, m) \quad \text{(Equation 1)}$$

which implies

$$\sum_{j=1}^m x_j^2 = A.$$

Please amend the paragraph beginning on page 16, line 24 as follows:

The steps involved in the novel encoding of spectral vectors are represented in the flow diagram of Figure 3 and listed as follows (a-e). After (a) choosing a value for the constant A to be used for all frames of speech, (b) the first step to be applied for each individual frame of speech is the same as the conventional process for conducting a spectral analysis in order to obtain m values of the integrated power P_i ($i=1, \dots, m$) within m different frequency bands spanning the audible frequency range. Then, instead of taking the logarithms of these power-values as is conventional in the prior art, (c) their sum $\sum_{j=1}^m P_j$ and (d) their square roots $\sqrt{P_i}$ ($i=1, \dots, m$) are computed. (e) each square-root value $\sqrt{P_i}$ is then divided by the square root of total power $\sum_{j=1}^m P_j$ (and

multiplied by a constant scaling factor A as desired) to obtain elements x_i ($i=1, \dots, m$) of the novel encoding of the spectral vector defined by equation 1.